

PREPARED FOR:

CITY OF MARTINSVILLE
55 WEST CHURCH STREET
MARTINSVILLE, VIRGINIA 24112



CITY OF MARTINSVILLE
HENRY COUNTY
TOWN OF RIDGEWAY

**SOLID WASTE MANAGEMENT PLAN
FIVE-YEAR UPDATE**

OCTOBER 2011

PREPARED BY:



2211 WEST MEADOWVIEW ROAD, SUITE 101
GREENSBORO, NORTH CAROLINA 27407
NC LICENSE NUMBER C-0782
PHONE: (336) 323-0092
FAX: (336) 323-0093
JEI PROJECT NO. 00241.1101.11.01

CITY OF MARTINSVILLE AND HENRY COUNTY SOLID WASTE MANAGEMENT PLAN

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1.0 INTRODUCTION

1.1 SUMMARY

The purpose of this revised Solid Waste Management Plan (SWMP) is to meet the requirements of 9VAC20-130-10 et seq., which are the Regulations for Solid Waste Management Planning, Amendment 1, effective August 1, 2001. The Plan outlines the long-term strategy and goals set by the City of Martinsville, Henry County, and the Town of Ridgeway concerning solid waste management. This agreement is set to expire on December 31, 2015. Prior to that date, the parties will evaluate their solid-waste disposal options.

1.2 PLAN GOALS

The goals of this SWMP include coordinating the efforts of the City of Martinsville, Henry County, and the Town of Ridgeway regarding solid waste management and planning. The Plan will develop objectives for the management of solid wastes, including, at a minimum, all of the following elements: source reduction, reuse, recycling, resource recovery (waste-to-energy), landfilling and transfer stations. In addition, the Plan will demonstrate how the goals and objectives for solid waste management will be met, as well as include a schedule for the implementation of these goals, as necessary.

2.0 PROJECTIONS AND WASTE QUANTITIES

2.1 SWMP COVERAGE AREA

The coverage area of this SWMP is the City of Martinsville (the City), Henry County (the County), and the Town of Ridgeway (the Town), herein called the Region. A Regional Map is provided in Appendix 1. The Region is located in the southern Piedmont region of Virginia, approximately 50 miles southeast of Roanoke and 40 miles north of Greensboro, North Carolina. The Region is surrounded by the Blue Ridge Mountains and borders North Carolina to the south.

The City of Martinsville, Henry County, and the Town of Ridgeway are members

of the West Piedmont Planning District Commission (PDC), which also includes the Counties of Franklin, Patrick, and Pittsylvania; the City of Danville; and the Town of Rocky Mount. The majority of the residential growth in the Region is centered around the existing cities and along primary transportation routes. Major transportation arteries through the Region include United States (U.S.) Highways 57, 58, and 220, and State Route 174.

The February 2011 unemployment rates for the City of Martinsville and Henry County were 17.8% and 11.6%, respectively. These values are much higher than the State of Virginia's unemployment rate for February of 2011, of 6.4%. Major employers (100± employees) in the Region include A.C. Furniture Co, Inc., American Fiber Industries Corp., Diversified Distribution, J&J Corrugated, Nationwide Homes, Inc., NV Warehouse Co Inc., Nylstar, Sara Lee Casualwear, Hanesbrands, Nautica, ICF International, Applied Felts, Bassett Furniture, Hooker Furniture, Commonwealth Laminating, CP Films/Solutia, GSI Commerce, Faneuil, Nilit, Monogram Meat Snacks, and Drake Extrusion.

2.2 POPULATION DATA AND PROJECTIONS

Population data and projections for the Region were obtained from the Virginia Employment Commission (VEC), who in turn references the U.S. Census Bureau. Table 1 summarizes the population data and projections for the planning period of 2010 through 2030. Generally, the total population for the entire Region is projected to decrease approximately 6.65% over the next twenty years. The population for the City is projected to decrease from 14,376 persons in 2010, to 13,952 persons in 2020, and then remain steady for the next 10 years. This corresponds to an average population decrease of 3.99% over the next twenty years. The population for Henry County is projected to decrease from 54,483 persons in 2010, to 52,979 persons in 2020, and then remain steady for the next 10 years, corresponding to an average population decrease of 2.85% over the next twenty years.

Table 1. Population by Jurisdiction.

Jurisdiction	2000	2004	2005	2010	2015	2020	2030
City of Martinsville	15,416	15,207	15,156	14,376	14,165	13,952	13,952
Henry County*	57,930	56,491	56,137	54,483	53,735	52,979	52,979
Town of Ridgeway	775	--	--	--	--	--	--
Totals	73,346	71,699	71,293	68,859	67,900	66,931	66,931

*The population for Henry County includes the Town of Ridgeway.

The 2010 Census Population provided by VEC for the City, as well as projections for the next 20 years is provided in Appendix 2. General information regarding size, location, and general information for each jurisdiction is provided below.

2.2.1 CITY OF MARTINSVILLE

The City of Martinsville is centrally located within Henry County, and encompasses approximately 11 square miles. As shown in Table 1, the 2010 Census Population for the City of Martinsville was 14,376 persons. Primary travel throughout the City is provided by U.S. Highways 58 and 220 and State Route 57.

The City of Martinsville is home to many of the larger industries and employers in the Region, such as Nationwide Homes, Inc. and Southern Finishing Corp.

2.2.2 HENRY COUNTY

Henry County is located in the southern Piedmont region of Virginia and is bordered by Patrick County to the west, Franklin County to the north, Pittsylvania County to the east, and North Carolina to the south. The County is approximately 382 square miles in size and includes the Town of Ridgeway. Other unincorporated communities within the County include Axton, Bassett, Chatmoss, Collinsville, Fieldale, Laurel Park, Spencer, and Stanleytown. In addition, Henry County is home to the Martinsville Speedway, which hosts the NASCAR Sprint Cup Racing Series, bringing thousands of visitors and tourists

into the Region multiple times a year. The 2010 Census Population for Henry County was 54,483 persons (excluding the Town of Ridgeway population).

Generally, land use throughout the communities consists primarily of small to medium residential areas, commercial business areas and industrial parks.

The County and its surrounding Counties provide a variety of recreational activities to visitors year round, such as Fairystone State Park, Smith Mountain Lake, Smith River, and the Blue Ridge Parkway. Primary travel throughout the County is provided by U.S. Highways 58 and 220, and State Route 57.

2.2.3 TOWN OF RIDGEWAY

The Town of Ridgeway is located in the southern portion of Henry County and is the only incorporated town within the County. The Town is approximately 0.94 square miles in size and had a 2000 Census Population of 775 persons.

2.3 COMPOSITION OF SOLID WASTE

All of the solid waste, except recyclables, collected within the City of Martinsville, Henry County, and the Town of Ridgeway is transported to the First Piedmont Transfer Station where the ultimate disposal will be determined. Based on the 2010 waste stream volumes recorded at the First Piedmont Transfer Station, solid waste from residents, businesses, and industries within the City of Martinsville accounts for approximately 25 percent of the waste collected. Residents, businesses, and industries in Henry County and the Town of Ridgeway generate the remaining 75 percent.

Of the waste accepted at the transfer station during 2010, residential/commercial waste represents 38 percent of the total waste collected within the Region. Industrial, construction demolition debris (CDD) and yard waste represents 23 percent. Sludge, which is not accepted at the Transfer Station but rather hauled directly to Upper Piedmont Landfill (UPL) in Roxboro, NC represents 11 percent. Recyclables accounts for the remaining 28 percent. Recyclables are collected separately from the solid waste and transferred to a local processing facility; thus, those values are reported in the upcoming sections of this report. Waste summary reports for 2010 are presented in Appendix 3.

2.4 CURRENT MARKET CONDITIONS

1. A jurisdiction's ability to provide recycling services to its residents and businesses is directly related to the overall value of those collected recyclables. The City of Martinsville and Henry County are continuously investigating markets and providing recycling services to residents and businesses, as economically feasible based on the available recycle/reuse markets. Currently, there is no composting performed by the City or County. All yard waste is transported to the First Piedmont Transfer Station. Glass recycling was discontinued when it was no longer cost efficient. However, there are private companies within the region that accept this material for recycling. The City is recycling paper, cardboard, metals, plastic, tires, used oil, used antifreeze, batteries, and paint for reuse and/or recycling. The County is recycling cardboard, newspaper, aluminum and tin cans, Nos. 1 and 2 plastics, and most basic household electrical items such as toasters, VCRs, DVD players, and televisions 20 inches or smaller. The County also recycles used oil and reuses it for shop equipment. The City also reuses oil to heat their garage complex. They also recycles wood waste into boiler fuel for use outside the Region. Milled pavement material is recycled/reused for roadway base and/or shoulder stone. The current markets in the County and the surrounding region allow certain materials such as newspaper, cardboard, plastics, and metal and aluminum tin cans to be cost-effectively collected and transferred to a local processing facility for recycling and/or reuse.

Unfortunately, based on the local and regional markets, it is currently not cost-effective for the City and the County to recycle textiles, glass, yard waste, electronics (except for those sited above), and abandoned automobiles. The City and County will continue to investigate the local and regional markets to determine if a cost-effective method of recycling these materials becomes available.

2.5 SOLID WASTE GENERATION AND FLOW PATTERNS

Currently, solid waste is collected from residences, businesses, and industries through curbside collection or private contractors. Convenience center sites are also provided throughout the Region.

2.5.1 TYPES OF WASTE GENERATED

Generally, the waste generated and handled within the Region consists of residential and commercial municipal solid waste (MSW), industrial waste, commercial demolition debris (CDD), sludge, vegetative and yard waste, and primary recyclable materials (PRM). PRM generally includes paper; cardboard; metal; plastic; glass; chipped or mulched waste wood; textiles; tires; used oil and oil filters; used antifreeze; batteries; electronics; and tree stumps greater than six inches in diameter. For the purposes of this report, waste will be presented in four(4) categories: MSW, Industrial, sludge and recyclables. MSW will include residential and commercial waste and Industrial will include industrial waste, CDD and yard waste. Based on the waste collection and disposal records for the Region in 2010, MSW, Industrial waste and sludge constitutes approximately 38 percent, 23 percent and 11 percent respectively, of the solid waste generated and collected within the Region. The remaining 28 percent consists of primary recyclable materials (PRM). The percentages of these items and the composition of the waste generated in the Region are presented in Chart 1.

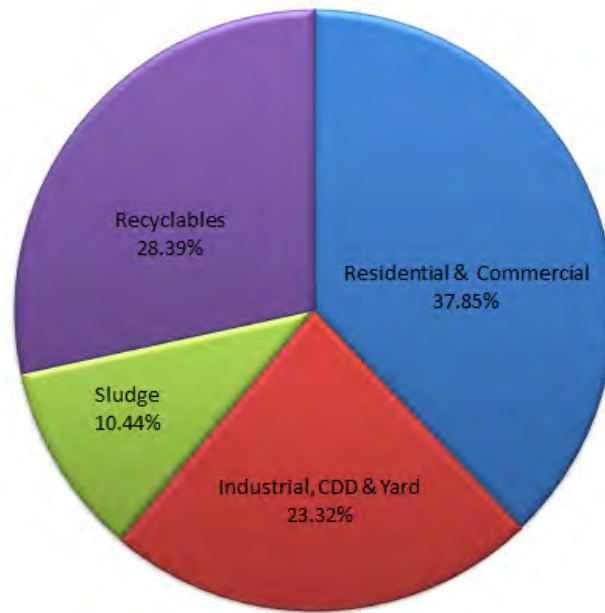


Chart 1. Composition of the solid waste generated and collected in the Region.

2.5.2 WASTE STREAM PROJECTIONS

Solid waste generation projections were calculated based on per day per capita rates estimated from the waste quantities recorded at the First Piedmont Transfer Station and the local jurisdictions during 2010. Descriptions of the projection methodology for each of the major types of waste generated in the Region are presented in the sections below. Supporting calculations are presented in Appendix 4.

2.5.2.1 Municipal Solid Waste

The Environmental Protection Agency (EPA) Office of Solid Waste and Emergency Response published per capita municipal solid waste (MSW) rates for the U.S. in a report entitled *Municipal Solid Waste Generation, Recycling and Disposal in the United States: Facts and Figures for 2008*. In 2008, Americans generated about 250 million tons of trash and recycled/composted 83 million tons of this material. On average, the per day per capita MSW generation estimate for the U.S. was 4.50

pounds with 1.5 pounds of this waste being recycled/composted. If recycling and recovery is removed, the average of the per day per capita MSW generation rate for 2008 was 3.00 pounds.

In order to determine if the average waste generation rate for the U.S. is applicable for the Region, the published per day per capita value was compared to the estimated tons per day per capita based on scalehouse records at the transfer station for 2010. In 2010, a total of 34,665 tons of MSW was disposed at the transfer station. As presented in the population projections in Appendix 3, the population in 2010 was 68,859 persons. Using the formula presented below, the per capita tonnage of MSW (PCT_{MSW}) for the City of Martinsville, Henry County, and the Town of Ridgeway, is 1.380E-03 tons per day per capita or 2.76 pounds per day per capita.

$$\begin{aligned} PCT_{MSW} &= 34,665 \text{ tons} * (1 \text{ year} / 365 \text{ days}) * (1 / 68,859 \text{ persons}) \\ &= 1.380\text{E-}03 \text{ tons/day/capita} \\ &= 2.76 \text{ pounds/day/capita} \end{aligned}$$

The City of Martinsville, Henry County, and Town of Ridgeway MSW generation rate is almost half of the published U.S. MSW generation rate value. This is primarily due to the large amount of materials that are recycled within the Region.

As a result, to be conservative, the average U.S. MSW generation rate of 3.00 pounds per day per capita was selected to calculate the MSW generation projection for the planning period of 2010 through 2030. To calculate the total annual and cumulative MSW generation quantities, the per capita rate was then applied to the annual population projections for the Region. Recycling quantities were removed from the per capita rate since they will be calculated for the Region separately.

As presented in Appendix 4, it is estimated that approximately 775,380 tons of residential waste will be generated in the Region between 2010 and 2030.

2.5.2.2 Industrial Waste

Industrial waste is collected separately in the Region from residential waste, and hauled to the First Piedmont Transfer Station. Since there are no published per capita generation rates for these types of waste, projections were estimated by calculating the per day per capita generation rate based on the 2010 scalehouse records provided by the transfer station.

During 2010, approximately 21,354 tons of non-hazardous industrial waste was collected in the Region and disposed at the sanitary transfer station. Using an estimated population in 2010 for the Region of 68,859 persons, the per day per capita tonnage of industrial waste (PCT_{IW}) is 8.496E-04 tons per day per capita or 1.70 pounds per day per capita, as presented in the formula below.

$$\begin{aligned} PCT_{IW} &= 21,354 \text{ tons} * (1 \text{ year} / 365 \text{ days}) * (1 / 68,859 \text{ persons}) \\ &= 8.496\text{E-}04 \text{ tons/day/capita} \\ &= 1.70 \text{ pounds/day/capita} \end{aligned}$$

To calculate the total annual and cumulative non-hazardous industrial waste generation quantities, the PCT_{IW} was then applied to the annual population projections for the Region. Using this methodology, it is estimated that approximately 439,190 tons of industrial waste will be generated in the Region in the next twenty years. Calculations are presented in Appendix 4.

2.5.2.3 Sludge

The methodology used to calculate the industrial waste projections was also used to project the amount of sludge generated in the Region. During 2010, approximately 9,563 tons of sludge were hauled in the Region. Using a 2010 population of 68,859 persons, the per day per capita tonnage of sludge (PCT_{SLUDGE}) is 3.470E-04 tons per day per capita or 0.88 pounds per day per capita, as presented below.

$$\begin{aligned} PCT_{SLUDGE} &= 9,563 \text{ tons} * (1 \text{ year} / 365 \text{ days}) * (1 / 68,859 \text{ persons}) \\ &= 3.840E-04 \text{ tons/day/capita} \\ &= 0.77 \text{ pounds/day/capita} \end{aligned}$$

It is estimated that approximately 198,533 tons of sludge will be generated in the Region in the next twenty years. Calculations are presented in Appendix 4.

2.5.2.4 Recyclable Materials

The recyclable materials projections were estimated using the per capita generation rate calculated from the 2010 population in the Region and the total amount of recyclable materials collected by the City of Martinsville, Henry County, and the Town of Ridgeway. For the purpose of this evaluation, recyclable materials were assumed to include paper, metal, plastic, waste wood, textiles, waste tires, used oil, used oil filters, used antifreeze, batteries, electronics, processed grease, and food waste.

The reported total quantity of recyclables collected in the Region in 2010 was 25,996 tons. Based on the population in 2010 of 68,859 persons, and the formula given below, a per capita tonnage of recyclable materials (PCT_R) for the Region of 1.034E-03 tons per day per capita or 2.07 pounds per day per capita was calculated.

$$\begin{aligned} PCT_R &= 25,996 \text{ tons} * (1 \text{ year} / 365 \text{ days}) * (1 / 68,859 \text{ persons}) \\ &= 1.034E-03 \text{ tons/day/capita} \end{aligned}$$

$$= 2.07 \text{ pounds/day/capita}$$

To calculate the total recyclable material projections, this PCT_R was then applied to the annual population projections for the Region. Using this methodology, it is estimated that approximately 534,660 tons of recyclable materials will be generated in the Region between 2010 and 2030. Calculations are presented in Appendix 4.

2.5.2.5 Other Special Wastes

2.5.2.5.1. Mining Wastes

Mining waste is not recorded separately from the commercial and industrial waste tonnages. As a result, mining waste projections cannot be broken out individually and are included in the commercial and industrial waste projections presented in Section 2.5.2.2, respectively.

2.5.2.5.2. Agricultural Wastes

Agricultural waste is not recorded separately from the industrial waste tonnages. As a result, agricultural waste projections cannot be broken out individually and are included in the commercial and industrial waste projections presented in Section 2.5.2.2, respectively.

2.5.2.5.3. Spill Residues

Spill residue waste is not recorded separately from the industrial waste tonnages. As a result, spill residue waste projections cannot be broken out individually and are included in the commercial and industrial waste projections presented in Section 2.5.2.2, respectively.

2.5.2.6 Household Hazardous Waste

Since household hazardous waste (HHW) is exempt from coverage under the hazardous waste regulation, the majority of residents dispose of these materials with the rest of their household garbage. The actual quantities of HHW are typically very small in comparison to general MSW; therefore, the projections of HHW are included in the MSW projections. Henry County, the City of Martinsville, and Gateway Streetscape work jointly to sponsor Household Hazardous Waste Days during the year. At these events, City and County residents may dispose of such items as paint, motor oil, gas, antifreeze, batteries, computer parts and used cell phones. Again, no business or commercial entities are allowed to participate.

3.0 SOLID WASTE MANAGEMENT SYSTEM

3.1 COLLECTION

3.1.1 RESIDENTIAL WASTE AND RECYCLING

Residential waste and recyclables are collected in the Region in three ways: (1) through convenience centers sites located throughout the County, (2) curbside collection programs, or (3) independent contracts with private haulers. A description of the residential collection for the City, County, and Town are presented below.

3.1.1.1 City of Martinsville

The solid waste collection needs for the majority of the residents in the City of Martinsville are handled by a City-run curbside waste collection program. The City collects residential waste once per week for transport to the First Piedmont Transfer Station. Many apartment

complexes in the City supply dumpsters for their residents to use. In addition, residents may choose to transport/haul their waste directly to the transfer station, if they so desire. The City also provides bulky trash (such as furniture, refrigerators, and washers) and brush pick-up to residents of the City, but require scheduling in advance. Also, an annual bagged leaf collection is provided in the fall.

Residents may drop-off their recyclable materials at the City of Martinsville drop-off center, which is operated by the City. The drop-off center does not have a designated capacity, and will be operated for as long as economically feasible for the City, but at least for the next 20 years, or through the planning period.

3.1.1.2 Henry County

Henry County does not provide curbside residential waste collection services to its residents. Therefore, residents may choose to independently contract with a private contractor or haul their waste directly to the transfer station. In addition, the County provides convenience centers for residents to utilize. These convenience centers do not have set capacities and will be operated for as long as economically feasible for the County, but at least for the next 20 years, or through the planning period.

Henry County also provides recycling of cardboard, plastics, newspaper, and scrap metal at the convenience sites located throughout the County.

3.1.1.3 Town of Ridgeway

The Town of Ridgeway does not provide curbside residential waste collection services to its residents. Therefore, residents may choose to independently contract with a private contractor or haul their waste directly to the transfer station. In addition, residents within the Town may

utilize the various greenbox drop-off collection sites and convenience centers located throughout Henry County.

3.1.2 COMMERCIAL INSTITUTIONS AND INDUSTRIES

Commercial and industrial waste and recyclables are generally collected in two ways: (1) collection programs provided by the local jurisdiction or (2) independent contracts with private haulers such as Waste Management or First Piedmont. No roll offs are provided by City or County. All of the waste collected from businesses, commercial institutions, and industries within the Region is transported to the First Piedmont Transfer Station for disposal. Waste delivered to the transfer station by private haulers is assessed a tip fee at the transfer station.

The City of Martinsville provides collection to many of the businesses and institutions throughout the City. The City has different collection routes for each day of the week; thus, the number of times the City picks up at each business varies. Many of the businesses and institutions in the City are provided with collection by City trucks numerous times in one week. Commercial institutions, business, and industries in Henry County and the Town of Ridgeway, as well as those within the City of Martinsville who are not provided refuse collection from the City, must contract individually with a private hauler for their waste collection and disposal. However, all of this waste is transported to the First Piedmont Transfer Station where final disposal is determined.

3.2 DISPOSAL

There is currently not an active permitted solid waste landfill located in the Region. The permitted waste disposal capacity for the Martinsville Sanitary Landfill was consumed in 2006. Upon closure, the City of Martinsville contracted with First Piedmont Corporation to operate a transfer station located at the existing landfill site.

The First Piedmont Transfer Station transports all waste that the Martinsville Landfill previously accepted to permitted facilities. The transfer station is located at 225 Arden Circle in Henry County, Virginia, approximately one mile northeast of the

Martinsville City limits. The transfer station is a 16,000 square foot facility. A map indicating the location of this facility is provided in Appendix 5. A list of the solid waste facilities in the Region that have at one time received a permit from the Department of Environmental Quality (DEQ) is provided in Appendix 6.

3.2.1 MUNICIPAL SOLID WASTE

The First Piedmont Transfer Station accepts household waste, MSW, CDD, non-hazardous industrial waste that meets all of the requirements of the Virginia Solid Waste Management Regulations (VSWMR), yard waste, recyclables, and many other items. The transfer station does not accept polychlorinated biphenyls (PCBs), regulated medical waste, regulated hazardous waste, radioactive waste, friable asbestos, sewage, flammable liquids/solids, and liquid wastes. Sludge is not accepted at the transfer station but hauled directly to UPL in Roxboro, NC along with any residential and commercial waste that may contain food.

3.2.2 INDUSTRIAL WASTE

There are currently no active industrial waste or CDD landfills permitted in the Region. Thus, industrial waste, CDD and yard waste generated within the Region that is acceptable at the First Piedmont Transfer Station is transported to the First Piedmont landfill in Ringgold, VA. Waste that is not authorized for disposal is sent to a facility outside of the Region, which is permitted to accept those wastes.

3.2.3 SLUDGE

There are currently no active sludge disposal facilities permitted in the Region and this waste is not accepted at First Piedmont Transfer Station, but is hauled by FPC directly to Upper Piedmont Landfill (UPL) in Roxboro, NC. Waste that is not authorized for disposal is sent to a facility outside of the Region, which is permitted to accept those wastes.

3.3 RECYCLING

As mentioned previously, the City of Martinsville, Henry County, and the Town of Ridgeway provide the collection of recyclables to their residents through convenience center sites located throughout the County, and drop-off sites for recyclables in the City of Martinsville. Recyclables, such as newspaper and newspaper inserts, paper products, cardboard, metal, plastics, wood waste, waste tires, used oil, used oil filters, used antifreeze, batteries, processed grease, and food waste, are recycled by residents, commercial institutions, businesses, and industries in the Region. Glass recycling quantity represented is from private companies within the Region that collect this material. The general composition of the recyclables collected within the Region in 2010 is presented in Chart 2.

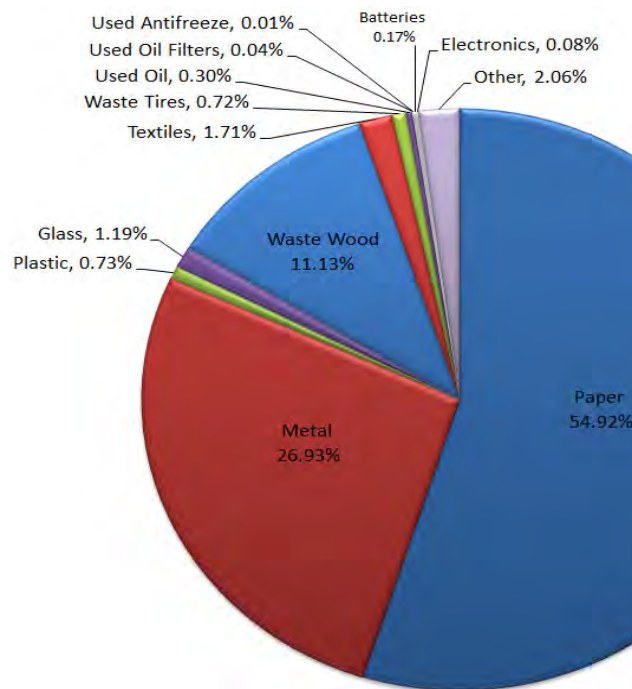


Chart 2. Composition of the recyclable materials collected and handled in the Region.

As shown in Chart 2, paper accounts for approximately 55 percent of all of the materials recycled in the Region. Metals represent the next highest percentage of the recyclables collected in the Region with 27 percent.

3.4 WASTE TREATMENT

Currently, the City of Martinsville, Henry County, and the Town of Ridgeway do not perform any waste treatment processes. At this time, no waste treatment processes are proposed during the 20-year planning period; however, the City and County will continue to evaluate waste treatment processes throughout the planning period.

3.5 PUBLIC EDUCATION

Information about solid waste management programs and recycling is provided to residents and businesses through local information programs. Each jurisdiction's information program includes news releases and advertisements for both local and regional newspapers. Newsletters, brochures, flyers, and presentations are also used, as necessary.

The City of Martinsville utilizes a local television channel that announces the times and dates of recycling collections, as well as what materials are collected for recycling. Henry County and the City of Martinsville also have a joint program called *Gateway Streetscape* that sponsors household hazardous waste collection events. The program also sponsors a Smith River Clean-Up event, which provides volunteers to collect trash that has accumulated along the banks of Smith River.

Gateway Streetscape also provides educational materials to local residents of the City and the County regarding proper waste disposal and litter prevention. In addition, the City of Martinsville and Henry County also each imposes fines to those that are caught littering or illegally disposing waste materials. The City and the County plan to continue these educational and litter prevention programs throughout the planning period. In addition, the City and the County plan to investigate and implement additional litter prevention programs, as economically feasible, throughout the planning period.

3.6 PUBLIC/PRIVATE PARTNERSHIPS

As mentioned in the previous sections, there are many partnerships between the local jurisdictions within the Region and private companies. Many homeowners in the City of Martinsville and Henry County contract with a private hauler to provide curbside collection of residential waste to its members. In addition, many of the businesses and industries in the City, County, and Town contract independently with private haulers, such as Waste Management, Inc., First Piedmont Corporation, and BFI, to provide waste collection and hauling services to the transfer station.

Henry Count contracts with The City of Martinsville regarding their waste disposal. The City of Martinsville contracted with First Piedmont Corporation in 2005 when the landfill closure occurred for the operation of a transfer station to handle all of the Regions waste disposal needs.

The individual jurisdictions may seek and enter into additional public/private partnerships on an as-needed basis in the future to continue to provide cost-effective solid waste management services to their residents.

3.7 SOLID WASTE ARCHIVE

Records and documentation for the First Piedmont Transfer Station, owned and operated by the First Piedmont Corporation, are stored on-site in the main office, and have been submitted to the Director of the DEQ or his/her designee. A record of the waste quantities billed to the City by First Piedmont Transfer Station and the waste quantities from the City owned and operated drop-off facility, are kept on-file at the City's Public Works Department. The City and *Gateway Streetscape* submit annual recycling reports, as required.

A record of the waste quantities billed for the County by First Piedmont Transfer Station and the waste quantities from the County owned and operated drop-off facilities, are kept on-file at the County's Public Works Department. Records for the closed County solid waste landfills are stored at the County's Engineering Department. Finally, records related to the closed EI DuPont Incinerator and Landfill are retained by DuPont. The

DEQ has been informed of the associated contact and archive location for these facilities, as well as the other facilities presented on the list in Appendix 5, but not mentioned here. Any new solid waste disposal sites will be documented and a copy will be submitted to the Director of the DEQ or his/her designee.

3.8 EVALUATION OF SOLID WASTE COLLECTION SYSTEMS

Each year, the City of Martinsville and Henry County evaluate the cost of providing solid waste collection services to local residents against the funding available through rates/fees. In addition, the City and/or the County investigate additional recycle and reuse markets. Based on these evaluations, the City and/or the County determine what solid waste services it can cost-effectively provide to local residents and businesses.

4.0 HIERARCHY

The Virginia Waste Management Board Regulations for Solid Waste Management Planning, Amendment 1, 9 VAC 20-130-10 *et seq.*, require the Plan to develop comprehensive and integrated solid waste management plans that consider, at a minimum, all components of the following hierarchy: (1) source reduction; (2) reuse; (3) recycling, (4) resource recovery (waste-to-energy); (5) incineration; and, (6) transfer stationing. A general description of each of the components is presented in the sections below. Implementation of each component of the hierarchy is presented in Section 6.0 of the Plan.

4.1 SOURCE REDUCTION

The purpose of source reduction is to reduce the amount of waste generated at the point of generation, or at the source. Source reduction may mean a change in a method of packaging or a change in a process design to eliminate or reduce waste. In most cases, packaging of a product influences the buyer either to purchase or not to purchase the product. As this is the case, controls will need to be placed on packaging from the state or federal level.

It is not believed that viable source reduction can occur at these industries at this

time on a local level. In order to quantify source reduction, a full-scale regional study would need to be performed, which is beyond the scope of this Plan update.

4.2 REUSE

Reuse is the use of a solid waste material that has been separated from the waste material, without processing or changing the material's form, for the same or another end use. Some examples of reusable items are glass soft drink bottles, bricks, and some wood products.

At this time, there are very few markets for reusable waste products. In the majority of cases, a manufacturer uses all new materials when manufacturing a product. Additionally, many waste products are not reusable until cleaned or disinfected. These processes require time and money, which most manufacturers are not willing to expend.

4.3 RECYCLING

Recycling is the process of separating a given waste material from the waste stream and processing it so that it is used again as a raw material for another product, which may or may not be similar to the original product. Recycling involves the separation of a waste material from the waste stream, collection, processing, marketing, sale, and utilization as a raw material.

There are several positive aspects to recycling. Recycling removes products from the waste stream resulting in less waste disposed. Less waste disposed conserves transfer station space. Recycling also removes, in most cases, materials that are non-biodegradable and would not decompose in a landfill, even if they were disposed. Recycling helps in the conservation of natural resources by utilizing materials that have already been processed, rather than using virgin materials. The use of recycled products rather than the use of virgin materials does not generally affect the usability of a manufactured product. However, it can affect the quality of a manufactured product.

4.4 WASTE-TO-ENERGY/INCINERATION

A resource recovery system, or a waste-to-energy system, is defined as a solid waste management system that provides for the collection, separation, recycling, and recovery of energy or solid wastes, including the disposal of non-recoverable waste residues. Incineration is defined as the controlled combustion of solid waste for disposal. It is different from resource recovery in that no usable product is generated from the combustion of the waste. The sole purpose of incineration is to burn the waste to reduce the quantity to be managed or disposed.

The two major types of resource recovery facilities are (1) the refuse derived fuel (RDF) facility and (2) the mass burn facility. RDF systems utilize a separation process that divides material that is combustible from material that is non-combustible. The non-combustible material may be collected and sold as a recyclable or reusable product. The combustible material is processed into pellets or fluff (RDF) and sold or used by the manufacturer as a fuel for combustion. Revenue results from the sale of both the non-combustible material, as well as the RDF itself.

Mass burn facilities do not utilize a separation process. All municipal solid waste is directly fed into the incinerator, which burns the waste at a high temperature. The resulting heat may be used to generate steam or electricity. It should be noted the mass burn of municipal solid waste results in the production of both air emissions and ash. The air emissions are regulated by state and federal agencies. The ash must be transfer stationed as a waste. This being the case, the locality must still plan for the disposal of a waste product, although the amount of waste to be disposed will be greatly decreased.

4.5 LANDFILL

Generally, a landfill is a facility that is permitted to accept waste materials for the placement and burial of that waste. As mentioned previously, there is not an active solid waste landfill located in the City of Martinsville, Henry County, and the Town of Ridgeway that currently services the disposal needs of the Region. At this time, transfer stationing appears to be the most feasible of the solid waste disposal alternatives. It is

possible; however, with the rising costs of meeting stricter regulatory requirements, transfer stationing may become as nearly an expensive venture as other hierarchy items, such as resource recovery and the option of landfilling within the Region could be investigated again.

4.6 TRANSFER STATION

Generally, a transfer station is a facility that is permitted to accept waste materials for transport to a permitted landfill, incinerator, recycling center or other waste disposal facility. Municipal and private trucks collect waste and haul it to a transfer station for temporary deposition. Transfer stations can be equipped with material recovery facilities to remove recyclables from the waste stream. When a region does not possess the resources to develop and operate a solid waste landfill, a transfer station is a feasible solution to provide the necessary waste disposal services to the area.

5.0 OBJECTIVES

The primary objective of this SWMP is to coordinate the efforts of the City of Martinsville, Henry County, and the Town of Ridgeway regarding solid waste management and planning. To accomplish this goal, each jurisdiction should continue to develop and implement budgets and funding strategies, as well as maintain a solid waste archive.

A second objective of this SWMP is to enlist public participation for solid waste management. To accomplish this objective, each jurisdiction should continue to develop education programs to increase public awareness and provide information to residents regarding locations of recyclable collection areas and materials accepted at the areas. In addition, each jurisdiction should continue to promote the importance of recycling to their residents, as well as provide incentives to businesses who participate in the recycling program.

The third and final objective of this SWMP is to maintain regulatory compliance with the Virginia Solid Waste Management Planning Regulations, Virginia Solid Waste Management Regulations, and additional state regulations, federal regulations, and local ordinances. This will

be done by consistently providing regular updates and necessary amendments, as required by 9VAC20-130-10 *et seq.*

6.0 PLAN IMPLEMENTATION

A description of how each component of the hierarchy is currently implemented in the Region and a schedule of future component implementation, as applicable, is presented in the sections below. An implementation schedule of activities to be performed by the City, County, and/or the Town during the next 20 years, concentrating on implementing the related hierarchy items, is presented below:

<u>Year(s)</u>	<u>Activity</u>
2005	Contracted with First Piedmont Corporation to construct the transfer station at the landfill site.
2005 – 2007	Identified methods to increase reuse and recycling of collected materials. Investigated local markets for recyclable materials.
2006 – 2007	Closed the City of Martinsville Landfill and update the SWMP.
2011	Submit SWMP 5-Year Update Plan.
2011 – 2030	Evaluate emerging technologies designed to promote source reduction, reuse, and recycling.

6.1 SOURCE REDUCTION

As mentioned previously, at this time, it is not believed that viable source reduction can occur on a local level; thus, there is currently no active plan to implement source reduction programs in this SWMP.

During the planning period, the City of Martinsville, Henry County, and the Town of Ridgeway will identify and evaluate regional or local programs that utilize and encourage practices that minimize waste generation. The City and the County through its *Gateway Streetscape* program will also promote to consumers the benefits of purchasing items in bulk and with less packaging. Through the public awareness program, the City and the County will achieve source reduction at the consumer level.

Further investigation is needed to fully understand and quantify source reduction programs that are occurring within the Region at the local businesses and industries.

6.2 REUSE

Currently, there are few markets for reusable waste products within the Region. As mentioned previously, most industrial facilities in the Region use new materials when manufacturing a product. Additionally, many waste products are not reusable until cleaned or disinfected, which require time and money, which most manufacturers are not willing to expend. However, the City is currently reusing wood waste and asphalt.

Reuse typically occurs on an industry level and cannot be controlled at this time by the local jurisdictions within the Region. During the planning period, the City of Martinsville, Henry County, and the Town of Ridgeway will identify and evaluate regional or local programs that utilize and encourage practices that reuse materials. The City and the County through its *Gateway Streetscape* program will provide educational programs and materials to the residents, businesses, and industries that promote the benefits of reusing materials through direct donations between user and reuser and/or packaging.

6.3 RECYCLING

To determine the existing level of recycling that is occurring in the Region, the adjusted recycling rate for 2010 was calculated. From this, the need for additional recycling programs can be determined and implemented, as necessary. The recycling rate is defined as the sum of the quantity of recycled Principal Recyclable Material (PRM) and Total Number of Credits(Recycling Residue, Solid Waste Reused, Non MSW Recycled) divided by the sum of the quantity of PRM recycled, credits granted, and total MSW disposed, multiplied by 100, as shown in the following equation:

$$\frac{Total\ PRM + TotalCredits}{Total\ PRM + Total\ Credits + Total\ MSW\ Disposed} \times 100$$

A sample of the Locality Recycling Rate Report Form that each jurisdiction is required to complete and submit to the DEQ is provided in Appendix 7.

Using the information collected by each jurisdiction within the Region, the parameters in the recycling rate equation are as follows:

Total PRM Recycled = 25,996 tons

Total Credits (Solid Waste Reused) = 614 tons

Total MSW Disposed = 55,830 tons

Using these values, the above calculation yields an adjusted recycling rate of approximately 32.3 percent.

This recycling rate exceeds the minimum recycling rate of 15 percent required by the Virginia Regulations for the Development of Solid Waste Management Plans. Supporting calculations are provided in Appendix 8.

The City of Martinsville, Henry County, and the Town of Ridgeway plan to continue to successfully achieve and maintain a countywide recycle rate of at least 15 percent. To do this, the City, County, and the Town will continue to evaluate the need for additional services or methods that will help to increase the recycling rate. An implementation schedule of activities to be performed by the City, the County, and/or the Town during the next 20 years is presented in Section 6.0.

Currently, the City is operating a drop-off collection site for recyclables, and the County is operating several convenience centers for residents to deliver their recyclables, such as paper, metals, plastic, used tires, used oil, and used anti-freeze. The City and the County will continue to provide these services, and investigate adding additional services when economically feasible. In addition, the City will also investigate expanding their recycling services to items such as electronics and textiles. Currently, the markets in the region do not allow these materials to be recycled cost-effectively.

In addition, the City of Martinsville and Henry County will continue to encourage businesses to actively recycle. Currently, businesses are requested to provide Gateway Streetscape with solid waste generation and recycling levels every year. Businesses will

be educated on what materials can be reused and/or recycled; more efficient use of paper; or using recyclable paper rather than new paper. The City and the County will investigate providing incentives to businesses that are actively participating in the recycling program.

Educating students in the Martinsville City Public School system and the Henry County Public School system, starting as early as kindergarten and continuing through high school levels, is also an effective way of informing future adults of proper solid waste management, as well as informing parents and the community. Students often become the biggest advocates of recycling, ensuring that recycling is occurring in the schools as well as in their homes. Therefore, the City and the County will investigate expanding their existing educational program into the school system, thereby increasing student awareness and involvement in the recycling program.

For recycling to be completely successful, participation must be obtained from governments, businesses, and residents, such that recycling is a part of people's daily routine. On-going educational programs and publications are vital to obtain a countywide recycle rate greater than the state mandated rate of 25 percent. The City and the County should provide every effort to adequately educate the public about recycling programs, make these programs conveniently available, and consider incentives that promote source reduction, reuse, and recycling. Since many find it easier to dispose of their waste rather than recycle, residents must be directly encouraged in a positive way to participate or be provided with incentives to do so.

6.4 WASTE-TO-ENERGY/INCINERATION

Currently, a waste-to-energy or incineration facility is not a financially advantageous option to the Region due to the available transfer station disposal space and high level of recycling maintained throughout the Region. The City of Martinsville, Henry County, and the Town of Ridgeway may investigate participating in a waste-to-energy or incineration facility, if so desired in the future. However, a landfill gas (LFG) to energy plant is located at the closed Martinsville Landfill.

6.5 LANDFILL

As a result of costs and the amount of waste generated in the Region, other than recycling, landfilling is not the most feasible of the solid waste disposal alternatives available to the Region; thus, it has not been selected as the primary component of the hierarchy to provide solid waste management for the Region.

As mentioned previously, the Martinsville Sanitary Landfill was closed in 2006 once the permitted capacity was consumed. Now that the landfill is closed, the City of Martinsville and Henry County have contracted with First Piedmont Corporation to operate a transfer station located at the existing landfill site. FPC utilizes two landfill sites for ultimate disposal of most of the waste collected within the Region.

FPC's Industrial landfill operates under the Virginia Department of Environmental Quality (DEQ) Permit Number 065 and encompasses approximately 250 acres. The gross capacity of the facility is approximately 8,165,757 cubic yards. Based on the current waste acceptance rate, the anticipated life of the facility is 37 years. Currently, the landfill's regular operating hours are 7:00 am to 5:00 pm Monday through Friday, and from 7:00 am to 12:00 pm on Saturday. The landfill is closed on Sundays and on New Years Day, Thanksgiving Day, and Christmas Day.

The UPL facility operates under the North Carolina Department of Natural Resources (NCDNR) Permit Number 73-04. The gross capacity of the facility is approximately 8.5 million cubic yards. The annual capacity is approximately 240,900 tons per year and the anticipated life of the facility is 35 years (at its current rate of waste acceptance). The landfill's regular operating hours are 7:00 am to 4:30 pm Monday through Friday, and from 7:00 am to 12:00 pm on Saturday. The landfill is closed on Sundays and on the New Years Day, Thanksgiving Day, and Christmas Day

6.6 TRANSFER STATION

At closure of the Martinsville Landfill, First Piedmont Corporation funded to construct a transfer station. They operate, maintain and finance the transfer station at the existing landfill. This facility accepts wastes that were previously taken at the landfill

except for sludge which is hauled directly. The transfer station is privately owned and funded; thus, the City of Martinsville is a customer under contract with First Piedmont Corp. who charges them a tipping fee by weight. Henry County and the Town of Ridgeway contract with the City of Martinsville and thus pay the same tipping fee.

It is anticipated that the transfer station will be in operation through the planning period of 2010 to 2020, and beyond. The transfer station operates at an average of 215 tons of waste per day. The maximum rated capacity of the transfer station facility is 1,850 tons per day.

The transfer station's regular operating hours are 7:00 am to 4:30 pm Monday through Friday, and from 7:00 am to 12:00 pm on Saturday. The transfer station is closed on Sundays and on the following holidays: New Years Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. However, FPC will operate the Transfer Station an additional 6 weekend hours (2 on Saturday/4 on Sunday, or all 6 on Sunday) to accommodate Henry County's weekend collection program. In addition, they will operate on any holiday when Upper Piedmont Landfill is accepting waste.

First Piedmont Corporation (FPC) transports the incoming waste from the City, the County, and the Town to a solid waste disposal facility permitted to accept these types of materials. Residential and commercial waste is currently transported to Upper Piedmont Landfill (UPL) in Roxboro, North Carolina. Industrial, CDD and yard waste are transported and disposed at the First Piedmont Landfill in Ringgold, Virginia. First Piedmont Corporation (FPC) may choose to transport the waste collected at their transfer station to another permitted disposal facility in the future, as necessary. Further information on these facilities is provided under Section 6.5 Landfill.

7.0 FUNDING AND CONSTRUCTION SCHEDULES

7.1 FUNDING

As presented in Section 3.0 of this Plan, each jurisdiction within the Region possesses its own mechanisms to provide waste services to their residents and businesses.

Residents and businesses within the City of Martinsville are assessed a fee for their waste

collection services, and are directly billed by the City. Henry County funds its solid waste management services through general tax funds. Services that are provided to residents, businesses, or industries by private haulers are direct billed by those private contractors.

The facility is required to assure all closure construction costs and post-closure care costs with the DEQ through a general reserve fund. To date, the 42.5-acre facility has been closed. It is estimated that approximately \$3.5 million is required for post-closure care. Post-closure care costs include landfill gas monitoring, groundwater monitoring, leachate management (if necessary), routine maintenance and mowing, and vector control.

7.2 CONSTRUCTION SCHEDULES

No construction anticipated in the next 5 years.

8.0 PUBLIC PARTICIPATION

8.1 PUBLIC/PRIVATE PARTNERSHIPS

As mentioned in Section 3.5 of this Plan, there are many public and private partnerships in the Region concerning solid waste management. It is anticipated that these partnerships will continue throughout the planning period, as necessary, to provide cost-effective services to the residents of each jurisdiction.

Commercial and business establishments are required by the Region to submit information on waste generated and recycled. With this information, generation quantities and waste types can be more accurately determined. In addition, potential expansions in solid waste services provided to businesses and industries within the Region can be investigated.

8.2 PUBLIC HEARINGS

Public hearings will be held by Henry County and the City of Martinsville on November 22nd, 2011, in accordance with the public participation requirements outlined

in 9VAC20-130-130. A copy of the notices published in the local and regional newspapers and the minutes of the City of Martinsville's public hearing will be provided in Appendix 9.

Copies of the Solid Waste Management Plan will be posted at various locations in the City of Martinsville and Henry County for public review prior to the public hearing. In addition, the plan will be reviewed by a member of the Gateway Streetscape Foundation.

8.3 RESOLUTIONS

Board of Supervisors and City Council meetings will be held by Henry County and the City of Martinsville on November 8th, 2011. The City of Martinsville and Henry County's action to adopt this Solid Waste Management Plan will occur concurrent with the public hearing meetings on Nov 22nd and will be provided in Appendix 10.

9.0 CONCLUSION

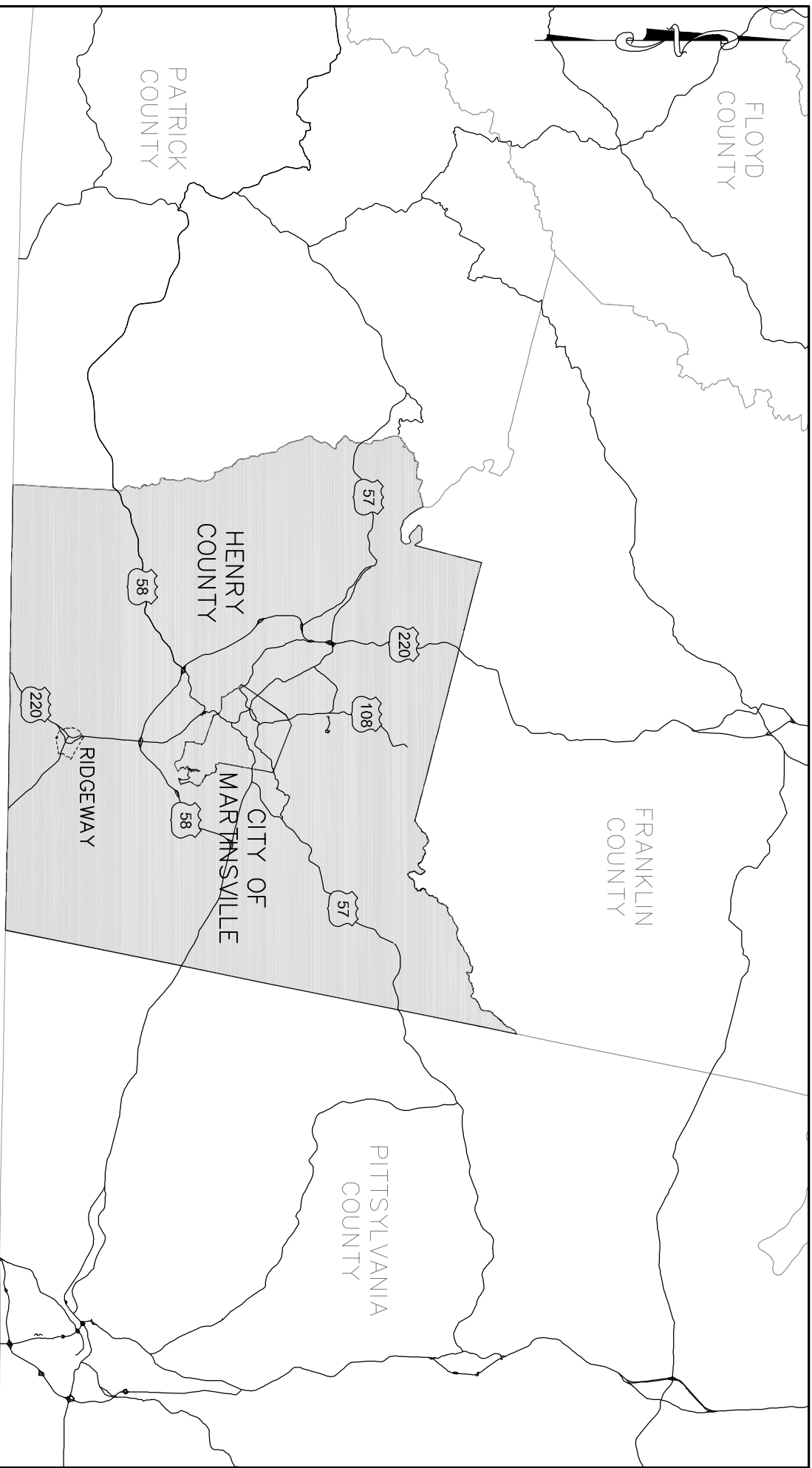
The purpose of this Plan is to provide the City of Martinsville, Henry County, and the Town of Ridgeway with goals for the long-term management of solid waste. For the Plan to succeed, the full participation of all of the residents, businesses, and industries of the Region must be acquired.

Based on the information provided by the Region, recyclables account for over half of the materials generated and handled within the Region, resulting in a 32.3 percent adjusted recycling rate being achieved by the residents and businesses in the Region. This exceeds the regulatory minimum rate of 15 percent. To maintain this recycling rate and regulatory compliance, each jurisdiction should continue to promote recycling and investigate providing incentives to businesses that actively participate in the recycling program.

In addition, the Region should continue to evaluate alternatives to landfilling whenever feasible, and implement available alternatives when it is economically beneficial to the Region. Finally, the Plan should be updated, as necessary, to maintain regulatory compliance and consistency with the actual services and needs of the Region.

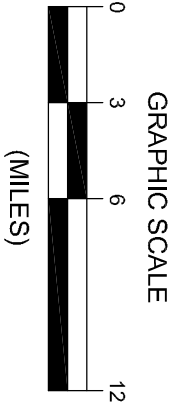
APPENDIX 1


Regional Map



NORTH CAROLINA

NOTE:
 BASE MAP INFORMATION PROVIDED BY VIRGINIA DEPARTMENT
 OF TRANSPORTATION (VDOT).



				 221 IV MEADOWVIEW RD. GREENSBORO, NC 27407 PHONE: (336) 323-0082 © 2011, Joye Engineering, Inc. All rights reserved.	SCALE 1"=6 MILES	PROJECT NO. 241.1101.11	CITY OF MARTINSVILLE AND HENRY COUNTY SOLID WASTE MANAGEMENT PLAN REGIONAL MAP	DRAWING NO. 1
REVISIONS AND RECORD OF ISSUE	NO	BY	CHK	APP				

APPENDIX 2

Population Projections

POPULATION PROJECTIONS
CITY OF MARTINSVILLE, HENRY COUNTY AND THE TOWN OF RIDGEWAY
(2010-2030)

Year	City of Martinsville	Henry County*	Total Regional Population
2000	15,416	57,930	73,346
2001	15,364	57,567	72,931
2002	15,311	57,206	72,518
2003	15,259	56,848	72,107
2004	15,207	56,491	71,699
2005	15,156	56,137	71,293
2006	15,104	55,785	70,890
2007	15,053	55,436	70,489
2008	15,002	55,088	70,090
2009	14,951	54,743	69,694
2010	14,376	54,483	68,859
2011	14,334	54,333	68,666
2012	14,291	54,183	68,474
2013	14,249	54,033	68,282
2014	14,207	53,884	68,091
2015	14,165	53,735	67,900
2016	14,123	53,587	67,710
2017	14,082	53,439	67,521
2018	14,040	53,292	67,332
2019	13,999	53,144	67,143
2020	13,952	52,979	66,931
2021	13,952	52,979	66,931
2022	13,952	52,979	66,931
2023	13,952	52,979	66,931
2024	13,952	52,979	66,931
2025	13,952	52,979	66,931
2026	13,952	52,979	66,931
2027	13,952	52,979	66,931
2028	13,952	52,979	66,931
2029	13,952	52,979	66,931
2030	13,952	52,979	66,931

*Population projections for Henry County include the Town of Ridgeway.

APPENDIX 3

Annual Waste Summary Report

City of Martinsville Solid Waste Management Plan 5-Yr Update

TABLE I

**TOTAL WASTE STREAM BY GEOGRAPHIC AREA
JANUARY, 2010 - DECEMBER, 2010**

Type of Waste	<u>CITY (tons)</u>	<u>% of City Waste</u>	<u>COUNTY (tons)</u>	<u>% of County Waste</u>	<u>TOTAL</u>	<u>% of WASTE</u>
Residential & Commercial	8,666	37.85%	25,999	37.85%	34,665	37.85%
Industrial, CDD & Yard	5,339	23.32%	16,016	23.32%	21,354	23.32%
Sludge	2,391	10.44%	7,172	10.44%	9,563	10.44%
Recyclables	6499	28.39%	19497	28.39%	25,996	28.39%
TOTALS	22,894		68,683		91,578	
 % of total tons	 25%		 75%			
 Avg. Tons/Day	 292.6					

NOTE: The landfill recycled 576 tons of waste tires, 258.5 tons of scrap metal and 1,042 tons of waste wood for the year 2010.

City of Martinsville Solid Waste Management Plan 5-Yr Update

TABLE II

**WASTE STREAM FOR REGION
JANUARY, 2006 - DECEMBER, 2010**

<u>YEAR</u>	<u>RESIDENTIAL/ COMMERCIAL</u>	<u>INDUSTRIAL/ CDD/YARD</u>	<u>SLUDGE</u>	<u>TOTAL</u>
2007	46,351	22,336	9,411	78,098
2008	35,885	24,568	9,777	70,230
2009	34,880	19,020	9,326	63,226
2010	34,665	21,354	8,663	64,682
TOTALS	151,780	87,279	37,177	276,236
% of WS	54.9%	31.6%	13.5%	
AVG. TONS/YR		69,059		
AVG. TONS/DAY		220.6		

*FPC began receiving sludge from the Region in 11/2006 so this year data was not included in the calculations.

APPENDIX 4

Solid Waste Projections

**MUNICIPAL SOLID WASTE GENERATION PROJECTIONS FOR THE CITY OF MARTINSVILLE,
HENRY COUNTY, AND THE TOWN OF RIDGEWAY**

Given:

Tons MSW/person/day = 1.500E-03
(Use EPA estimate of 3.00 lbs/person/day)

Year	Total Regional Population	Tons MSW/day	Annual MSW Needs (Tons)	Cumulative MSW Needs (Tons)
2010	68,859	103	37,700	37,700
2011	68,666	103	37,595	75,295
2012	68,474	103	37,490	112,785
2013	68,282	102	37,385	150,169
2014	68,091	102	37,280	187,449
2015	67,900	102	37,176	224,624
2016	67,710	102	37,071	261,696
2017	67,521	101	36,968	298,664
2018	67,332	101	36,864	335,528
2019	67,143	101	36,761	372,289
2020	66,931	100	36,645	408,933
2021	66,931	100	36,645	445,578
2022	66,931	100	36,645	482,223
2023	66,931	100	36,645	518,868
2024	66,931	100	36,645	555,512
2025	66,931	100	36,645	592,157
2026	66,931	100	36,645	628,802
2027	66,931	100	36,645	665,446
2028	66,931	100	36,645	702,091
2029	66,931	100	36,645	738,736
2030	66,931	100	36,645	775,381

**INDUSTRIAL WASTE GENERATION PROJECTIONS FOR THE CITY OF MARTINSVILLE,
HENRY COUNTY, AND THE TOWN OF RIDGEWAY**

Given:

Total Industrial Waste (IW) Disposed in 2010 (tons) = 21,354
 Total Population in 2010 (persons) = 68,859
 Tons Industrial Waste/person/day = 8.496E-04

Year	Total Regional Population	Tons IW/day	Annual IW Needs (Tons)	Cumulative IW Needs (Tons)
2010	68,859	59	21,354	21,354
2011	68,666	58	21,294	42,648
2012	68,474	58	21,235	63,883
2013	68,282	58	21,175	85,058
2014	68,091	58	21,116	106,174
2015	67,900	58	21,057	127,231
2016	67,710	58	20,998	148,228
2017	67,521	57	20,939	169,167
2018	67,332	57	20,880	190,048
2019	67,143	57	20,822	210,870
2020	66,931	57	20,756	231,626
2021	66,931	57	20,756	252,382
2022	66,931	57	20,756	273,138
2023	66,931	57	20,756	293,894
2024	66,931	57	20,756	314,650
2025	66,931	57	20,756	335,406
2026	66,931	57	20,756	356,162
2027	66,931	57	20,756	376,919
2028	66,931	57	20,756	397,675
2029	66,931	57	20,756	418,431
2030	66,931	57	20,756	439,187

**SLUDGE GENERATION PROJECTIONS FOR THE CITY OF MARTINSVILLE,
HENRY COUNTY, AND THE TOWN OF RIDGEWAY**

Given:

Total Sludge Disposed in 2010 (tons) = 9,653
 Total Population in 2010 (persons) = 68,859
 Tons Sludge/person/day = 3.841E-04

Year	Total Regional Population	Tons Sludge/day	Annual Sludge Needs (Tons)	Cumulative Sludge Needs (Tons)
2010	68,859	26	9,653	9,653
2011	68,666	26	9,626	19,279
2012	68,474	26	9,599	28,878
2013	68,282	26	9,572	38,450
2014	68,091	26	9,545	47,996
2015	67,900	26	9,519	57,514
2016	67,710	26	9,492	67,006
2017	67,521	26	9,465	76,472
2018	67,332	26	9,439	85,910
2019	67,143	26	9,412	95,323
2020	66,931	26	9,383	104,706
2021	66,931	26	9,383	114,088
2022	66,931	26	9,383	123,471
2023	66,931	26	9,383	132,854
2024	66,931	26	9,383	142,237
2025	66,931	26	9,383	151,619
2026	66,931	26	9,383	161,002
2027	66,931	26	9,383	170,385
2028	66,931	26	9,383	179,767
2029	66,931	26	9,383	189,150
2030	66,931	26	9,383	198,533

**RECYCLABLE MATERIALS GENERATION PROJECTIONS FOR THE CITY OF MARTINSVILLE,
HENRY COUNTY, AND THE TOWN OF RIDGEWAY**

Given:

Total Recycled in 2010 (tons) = 25,996
 Total Population in 2010 (persons) = 68,859
 Tons Recyclables/person/day = 1.034E-03

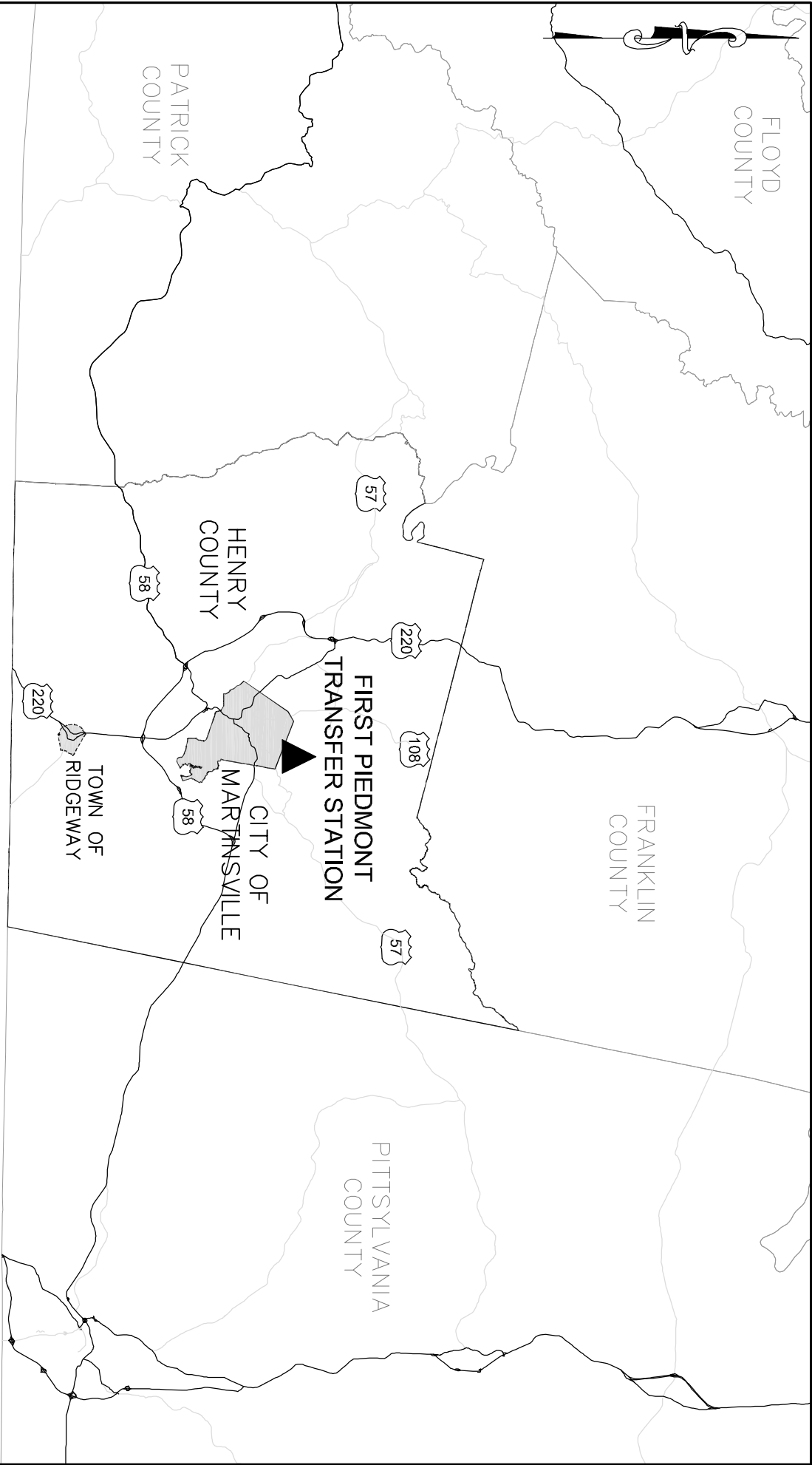
Year	Total Regional Population	Tons Recyclables/day	Annual Recyclable Needs (Tons)	Cumulative Recyclable Needs (Tons)
2010	68,859	71	25,996	25,996
2011	68,666	71	25,923	51,919
2012	68,474	71	25,851	77,770
2013	68,282	71	25,778	103,548
2014	68,091	70	25,706	129,254
2015	67,900	70	25,634	154,888
2016	67,710	70	25,562	180,451
2017	67,521	70	25,491	205,942
2018	67,332	70	25,419	231,361
2019	67,143	69	25,348	256,709
2020	66,931	69	25,268	281,977
2021	66,931	69	25,268	307,246
2022	66,931	69	25,268	332,514
2023	66,931	69	25,268	357,782
2024	66,931	69	25,268	383,050
2025	66,931	69	25,268	408,318
2026	66,931	69	25,268	433,586
2027	66,931	69	25,268	458,854
2028	66,931	69	25,268	484,122
2029	66,931	69	25,268	509,391
2030	66,931	69	25,268	534,659

**TOTAL SOLID WASTE GENERATION PROJECTIONS FOR THE CITY OF MARTINSVILLE,
HENRY COUNTY, AND THE TOWN OF RIDGEWAY**

Year	Annual Disposal Needs Less Recycling (Tons)	Cumulative Disposal Needs Less Recycling (Tons)	Cumulative Disposal Needs With Recycling (Tons)
2010	68,707	68,707	94,703
2011	68,515	137,222	189,141
2012	68,323	205,545	283,315
2013	68,132	273,677	377,225
2014	67,941	341,618	470,873
2015	67,751	409,369	564,258
2016	67,561	476,930	657,381
2017	67,372	544,302	750,244
2018	67,183	611,486	842,847
2019	66,995	678,481	935,191
2020	66,784	745,265	1,027,242
2021	66,784	812,048	1,119,294
2022	66,784	878,832	1,211,346
2023	66,784	945,615	1,303,397
2024	66,784	1,012,399	1,395,449
2025	66,784	1,079,183	1,487,501
2026	66,784	1,145,966	1,579,552
2027	66,784	1,212,750	1,671,604
2028	66,784	1,279,533	1,763,656
2029	66,784	1,346,317	1,855,707
2030	66,784	1,413,100	1,947,759

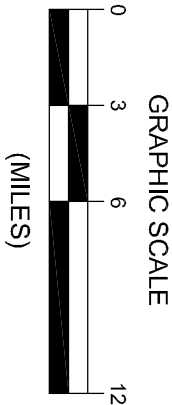
APPENDIX 5

Map of Active Waste Facilities in the Region



NORTH CAROLINA

NOTE:
 BASE MAP INFORMATION PROVIDED BY VIRGINIA DEPARTMENT
 OF TRANSPORTATION (VDOT).



2011 W. MEADOWVIEW RD GREENSBORO, NC 27407 PHONE: (336) 325-0092 © 2011 Joyce Engineering, Inc. All rights reserved.		SCALE 1"=6 MILES		PROJECT NO. 241.1101.11		CITY OF MARTINSVILLE AND HENRY COUNTY SOLID WASTE MANAGEMENT PLAN ACTIVE SOLID WASTE MANAGEMENT FACILITIES		DRAWING NO. 2	
REVISIONS AND RECORD OF ISSUE NO. BY CK APP									

APPENDIX 6

List of All Solid Waste Facilities in the Region

SOLID WASTE FACILITIES IN THE CITY OF MARTINSVILLE, HENRY COUNTY, AND THE TOWN OF RIDGEWAY

<u>Facility Name</u>	<u>Permit Number</u>	<u>Type of Facility</u>	<u>Status</u>	<u>County/City</u>	<u>Year Permitted</u>	<u>Mail Address</u>	<u>Telephone</u>
EI DuPont Incinerator	007	Incineration/Energy	Closed	Henry	1971	EI DuPont, Martinsville, VA 24112	540-632-9761
EI DuPont Landfill	008	Industrial	Closed	Henry	1971	EI DuPont, Martinsville, VA 24112	540-632-9761
Henry County Sanitary Landfill	003	Sanitary	Closed	Henry	1971	Henry County, Collinsville, VA 24078	540-638-5311
Henry County Sanitary Landfill	320	Sanitary	Closed	Henry	1981	Henry County, Collinsville, VA 24088	540-638-5311
Patrick County Correctional Unit #2	PBR281	RMW (S)	Unknown	Henry	--	Route 2, Ridgeway, VA 24148	Not Available
Martinsville Sanitary Landfill	049	Sanitary	Closed	Martinsville	1972	City of Martinsville, Martinsville, VA 24114	540-666-5180
First Piedmont Corporation - Martinsville Transfer Station	PBR520	Transfer Station	Active	Martinsville	2005	P.O. Drawer 1069, Chatham, VA 24531	434-432-0211
Memorial Hospital of Martinsville and Henry County	PBR130	RMW (I)	Closed	Henry	1998	Memorial Hospital of Martinsville and Henry County, P.O. Box 4788, Martinsville, VA 24115	540-666-5311
Memorial Hospital of Martinsville and Henry County	PBR297	RMW (I&S)	Unknown	Martinsville	--	Memorial Hospital of Martinsville and Henry County, P.O. Box 4788, Martinsville, VA 24115	540-666-7601

Legend:

Incineration/Energy = Incineration/Energy Recovery Facility

Industrial = Industrial Landfill

RMW (I) = Regulated Medical Waste Incineration

RMW (I&S) = Regulated Medical Waste Incineration & Steam Sterilization

RMW (S) = Regulated Medical Waste Steam Sterilization

Sanitary = Sanitary Landfill

APPENDIX 7

Locality Recycling Rate Report Form

The Virginia Annual Recycling Rate Report

Calendar Year 2009 Summary



November 2010

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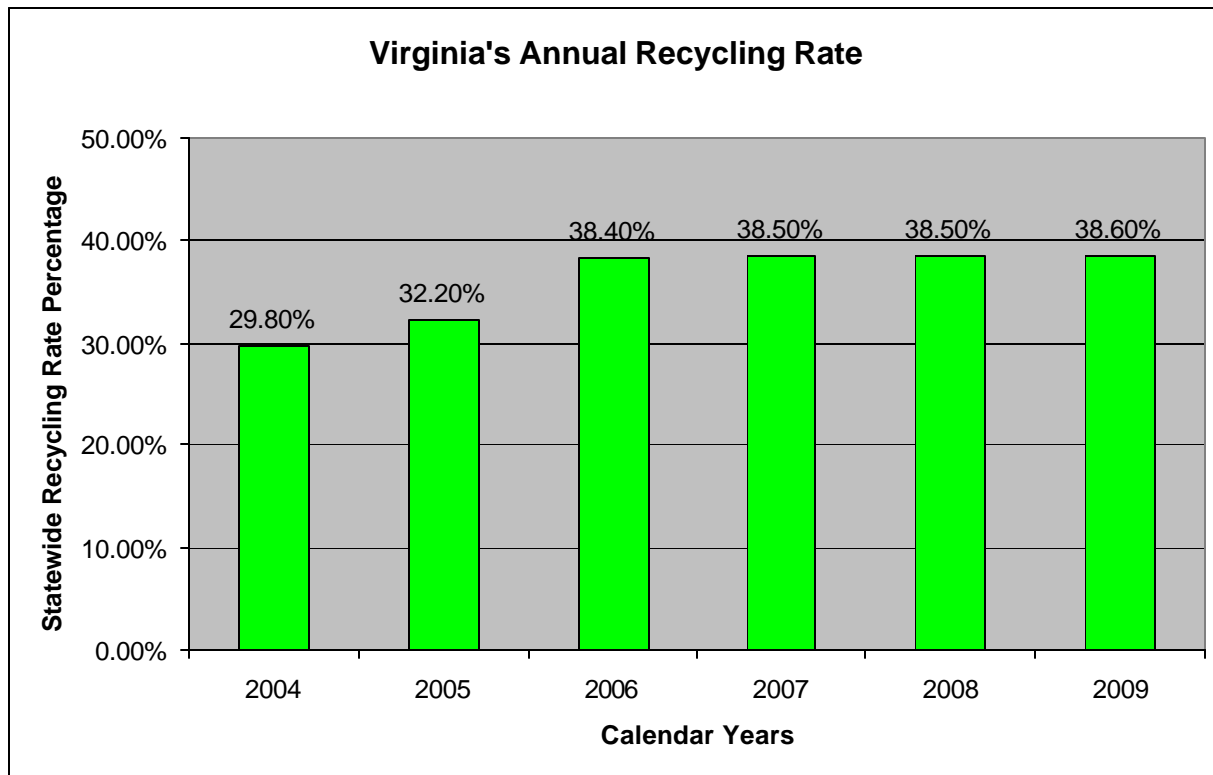
<u>Topic</u>	<u>Page Number(s)</u>
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Areas Reporting Highest Recycling Rates	2
Trends for CY 2009	2
Mandated Recycling Rate Results	3
Recycling Action Plans	3
Table of Recycling Rates by Solid Waste Planning Units	4 - 8
Recycling Rate Report Summary	9
Recycling Pie Chart	10

VIRGINIA'S STATEWIDE RECYCLING RATE

FOR CALENDAR YEAR 2009

The Virginia Department of Environmental Quality (DEQ) has completed its review of the recycling rate data reported for calendar year (CY) 2009. The data for this summary report was compiled from the reports submitted by the 71 solid waste planning units (SWPUs), and represents recycling information from 324 Virginia cities, counties and towns. In some cases, reported data was adjusted for consistency with the Virginia Solid Waste Planning Regulation (9 VAC 20-130 et. seq.).

Virginia's calculated recycling rate for CY 2009 is 38.6%. For the first time since the adoption of the recycling mandate in 1989, all Solid Waste Planning Units have met or exceeded their respective required recycling rates. This achievement reflects well upon the commitment made by Virginia localities to promote and support recycling over the last twenty-one years.



Statewide Recycling Rate Data – 3-year summary

2009 – 3,490,151 tons of material recycled or reused, and 9,098,045 tons of solid waste generated (calculation includes +.23% for source reduction initiatives)

2008 – 3,661,027 tons of material recycled or reused, and 9,542,428 tons of solid waste generated (calculation includes +.17% for source reduction initiatives)

2007 – 3,637,933 tons of material recycled or reused, and 9,526,959 tons of solid waste generated (calculation includes +.27% for source reduction initiatives)

Areas Reporting Highest Rates – 2007-2009

Higher recycling rates were reported in the more densely populated areas of the state. For CY 2009, these areas reported a total of 3 million recycled tons, or 86 % of all recyclables collected, and had a calculated average recycling rate of 41 %. These areas include:

Calculated Regional Recycling Rates by Year			
<u>Area</u>	<u>CY 2009</u>	<u>CY 2008</u>	<u>CY 2007</u>
Bristol Area	41.7 %	39.5%	31.4%
Roanoke Area	42.1 %	33.3%	32.9%
Lynchburg Area	32.0 %	34.0%	40.7%
Northern Shenandoah Valley	36.5 %	33.5%	35.8%
Fredericksburg Area	51.4 %	47.1%	46.5%
Richmond Area	52.8 %	52.8%	53.0%
Northern Virginia	37.2 %	37.1%	35.4%
Hampton Roads/Tidewater Area	36.5 %	31.2%	43.3%

Trends Observed in CY 2009 Reports

In reviewing the statewide totals from the recycling rate reports, the following trends were observed:

- **Principal Recyclable Materials* (PRMs) decreased about 1 %; Credits* decreased overall by 15 %; and Municipal Solid Waste* (MSW) disposed decreased by 5 %.**

** PRMs, Credits and MSW disposed are defined on Page 8 of this report.*

As subsets of the PRM category, the commodity capture rates changed as indicated:

- | | | |
|-------------------------------|--------|-------------------------|
| • Paper | 17.0 % | down from CY 2008 level |
| • Metals | 9 % | up from CY 2008 level |
| • Plastics | 5 % | up from CY 2008 level |
| • Glass | 10 % | down from CY 2008 level |
| • Commingled | 18 % | down from CY 2008 level |
| • Waste tires | 9 % | down from CY 2008 level |
| • Yard/Wood waste | 4 % | up from CY 2008 level |
| • Used oil/filters/antifreeze | 42 % | up from CY 2008 level |
| • Electronics | 69 % | up from CY 2008 level |

Mandated Recycling Rate Results

In each of the last four reporting years, more of the reporting entities (SWPUs) have met the required recycling rate:

<u>Year (% meeting rate)</u>	<u># Reports</u>	<u>25 % or Greater</u>	<u>15% to 25 %</u>	<u># below mandated recycling rate</u>
CY 2009 (100 %)	71	51	20	0
CY 2008 (97 %)	71 *	48	21	2
CY 2007 (89 %)	74	49	19	8
CY 2006 (86 %)	74	46	18	10

** The reduction in number of reports submitted is due to consolidation and re-alignment of SWPU membership.*

Each SWPU is required to achieve a minimum 25 % recycling rate *unless*

- its population density is less than 100 persons per square mile, or
- its civilian unemployment rate is 50 % or more above the state wide unemployment average.

SWPUs meeting these criteria were required to achieve a minimum 15 % recycling rate. Using this two-tiered recycling mandate standard, 71 of the 71 SWPUs (or 100 %) met or exceeded their minimum mandated recycling rate.

Solid Waste Management Planning and Recycling Action Plans

DEQ continues to review the required Solid Waste Management Plans (SWMPs) and any updates submitted by the SWPUs for completeness, including locality or regional recycling program information. If at any time the SWPU reports less than the required 15 % or 25 % recycling rate, DEQ will require a Recycling Action Plan (RAP) be submitted as an amendment to the SWPU's Solid Waste Management Plan to identify specific elements of the recycling program that will be improved in order for the SWPU to achieve its mandated recycling rate.

A RAP requires both a commitment by the SWPU to provide resources necessary to improve its program, as well as a timeline for achieving the program elements. The RAP must be adopted by the administrative governmental board(s) for all localities covered by the Solid Waste Management Plan, and then approved by DEQ. Regular reporting on the progress made on the RAP elements is required until such time as the SWPU meets its minimum required recycling rate.

Calculated Recycling Rates for CY 2009

Solid Waste Planning Unit Recycling Rates and Data

REPORTING ENTITY (Solid Waste Planning Units)	CY 2009 Recycling Rate* (%)	CY 2009 Total Recycled Tons (PRMs + Credits)	CY 2009 Total MSW Generation Tons (PRMs + Credits + MSW disposed)
Statewide Totals	38.6 % *	3,490,151 tons	9,098,045 tons
Accomack County SWPU	25.1 *	8,770	33,733
Alexandria (City) SWPU	28.6	56,051	195,791
Alleghany Highlands SWPU	21.6	5,094	23,635
Amelia County SWPU	29.8 *	2,621	8,797
Amherst County SWPU	28.5	8,755	30,680
Arlington County SWPU	40 *	124,275	279,410
Augusta –Staunton-Waynesboro SWPU	26.6	33,691	126,842
Bath County SWPU	26.2 *	1,525	6,297
Bedford County SWPU	42 *	25,748	64,372
Botetourt County SWPU	19.1	3,679	19,245
Bristol (City) SWPU	41.7	10,096	24,219
Brunswick County SWPU	25.3	4,162	16,430
Buckingham County SWPU	35	5,390	15,409
Caroline County SWPU	15.3	2,141	13,963
Carroll-Grayson-Galax SWPU	29.8	12,084	40,538
Central Virginia Waste Management Authority SWPU (Counties of Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent, Powhatan, Prince George; Cities of Richmond, Hopewell, Colonial Heights and Petersburg)	52.8 *	656,461	1,121,670

REPORTING ENTITY (Solid Waste Planning Units)	CY 2009 Recycling Rate* (%)	CY 2009 Total Recycled Tons (PRMs + Credits)	CY 2009 Total MSW Generation Tons (PRMs + Credits + MSW disposed)
Craig County SWPU	22.8	812	3,566
Culpeper County SWPU	30.4	10,273	33,752
Cumberland Plateau Regional Waste Management Authority SWPU (Buchanan, Dickenson and Russell Counties)	35.3 *	29,460	83,516
Danville (City) SWPU	41.4	10,790	26,073
Fairfax (City) SWPU	49.9	24,182	48,455
Fairfax County SWPU	39.4 *	445,624	1,190,306
Falls Church (City) SWPU	57.6 *	7,183	12,922
Fauquier County SWPU	31.8 *	33,496	102,654
Floyd County SWPU	24.7 *	3,954	15,223
Franklin County SWPU	29.6	14,507	49,012
Gloucester County SWPU	31.8	12,824	40,307
Greater Rockingham SWPU	27.5	17,392	63,291
Harrisonburg (City) SWPU	25.9	19,558	75,376
Herndon (Town) SWPU	38.9	9,569	24,607
Highland County SWPU	20.6	402	1,951
King George County SWPU	20 *	51,021	66,265
Lee County SWPU	17.8	3,472	19,481
Loudoun County SWPU	31.2	95,869	306,986
Louisa County SWPU	35.8	7,781	21,724

REPORTING ENTITY (Solid Waste Planning Units)	CY 2009 Recycling Rate* (%)	CY 2009 Total Recycled Tons (PRMs + Credits)	CY 2009 Total MSW Generation Tons (PRMs + Credits + MSW disposed)
Lunenburg County SWPU	17.2	2,371	13,797
Madison County SWPU	24.9	1,969	7,920
Manassas (City) SWPU	43	24,404	56,701
Manassas Park (City) SWPU	42.1	8,293	19,678
Martinsville (City)/Henry County SWPU	30.3	23,457	77,357
Montgomery Regional Solid Waste Authority SWPU (Montgomery County, Blacksburg and Christiansburg)	32.1	34,388	95,077
Mount Rogers PDC SWPU (Counties of Bland, Smyth, Washington, and Wythe)	26	21,689	83,304
Newport News (City) SWPU	36.7	159,306	350,392
New River Resource Authority SWPU (Counties of Pulaski and Giles; City of Radford)	31.4	34,759	90,660
Northampton County SWPU	21.6	3,757	17,389
Northern Neck PDC SWPU (Counties of Lancaster, Northumberland, Richmond and Westmoreland)	22.1	12,010	54,230
Northern Shenandoah Valley Regional Commission SWPU (Counties of Clarke, Frederick, Shenandoah, Warren and Page; City of Winchester)	36.5	72,388	198,282
Nottoway County SWPU	15	3,101	20,652
Orange County SWPU	21.5	9,067	25,762
Patrick County SWPU	36.3	4,345	11,971
Pittsylvania County SWPU	30.1	13,202	43,794
Prince Edward - Cumberland SWPU	22.2	5,873	26,483

REPORTING ENTITY (Solid Waste Planning Units)	CY 2009 Recycling Rate* (%)	CY 2009 Total Recycled Tons (PRMs + Credits)	CY 2009 Total MSW Generation Tons (PRMs + Credits + MSW disposed)
Prince William County SWPU	36.1	157,646	432,877
Rappahannock County SWPU	22.4	1,311	5,847
Rappahannock Regional Solid Waste Management Board SWPU (County of Stafford and City of Fredericksburg)	45.4	61,430	141,430
Region 2000 (Counties of Nelson, Appomattox and Campbell, Cities of Lynchburg and Bedford)	32 *	101,110	302,317
Roanoke (City) SWPU	48.7	63,445	108,597
Roanoke County SWPU	28	17,325	61,843
Rockbridge – Lexington – Buena Vista SWPU	43.8	15,882	36,294
Salem (City) SWPU	46.9	20,662	44,080
Scott County SWPU	16.2	2,919	17,965
Southeastern Public Service Authority SWPU (Counties of Isle of Wight and Southampton; Cities of Chesapeake, Franklin, Norfolk, Portsmouth, Suffolk, and Virginia Beach)	32.7 *	555,210	1,588,823
Southern Crater Region SWPU (Counties of Dinwiddie, Greensville, Surry, and Sussex; City of Emporia)	17.7	12,734	72,084
Southside Regional PSA SWPU (Counties of Charlotte, Halifax and Mecklenburg)	15.4	8,325	53,925
Spotsylvania County SWPU	37.3	50,041	108,646
Tazewell County SWPU	22.1	15,603	70,544
Thomas Jefferson PDC SWPU (Counties of Albemarle, Fluvanna, and Greene; City of Charlottesville)	31.2	54,399	179,551
Vienna (Town) SWPU	53	5,378	10,142

REPORTING ENTITY (Solid Waste Planning Units)	CY 2009 Recycling Rate* (%)	CY 2009 Total Recycled Tons (PRMs + Credits)	CY 2009 Total MSW Generation Tons (PRMs + Credits + MSW disposed)
Vinton (Town) SWPU	41.3 *	6,597	10,459
Virginia Peninsulas Public Service Authority SWPU (Counties of Essex, James City, King & Queen, Mathews, Middlesex, and York; Cities of Hampton, Poquoson, and Williamsburg)	35.4	144,234	407,174
Wise County SWPU	30.4	18,319	60,234
STATEWIDE TOTALS CY 2009	38.6 % *	3,490,151 tons	9,098,045 tons

* All data based on adjustments by DEQ for consistency with 9VAC-20-130-10 and 9VAC20-130-120, with a 5 % maximum percentage allowed for credits to the base recycling rate calculated by a solid waste planning unit. A 2 % source reduction credit may have been added to the calculated recycling rates for a documented source reduction programs.

PRMs = Principal Recyclable Materials (paper, metal, plastic, glass, commingled materials, yard waste, waste wood, textiles, waste tires, used oil, used oil filters, used antifreeze, inoperative automobiles, batteries, electronics and other)

CREDITS = Recycling Residues, Solid Waste Reused, and Non-MSW Recycled (includes construction and demolition material, ash and debris), and Source Reduction Initiatives. Source Reduction Initiatives must be documented as SWPU policy and promoted across the SWPU.

MSW Disposed = Municipal solid waste delivered to sanitary landfills or incinerators for disposal.

Recycling Rate Report Summary

Virginia Solid Waste Planning Units Reporting Rate Information for CY 2009

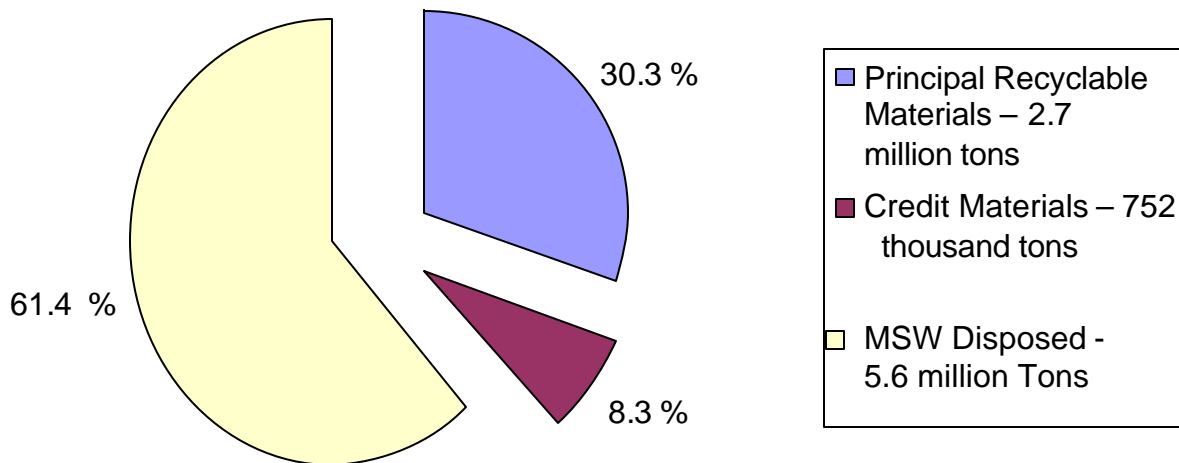
71 Recycling Rate Reports, representing **324 Virginia localities** and every **Solid Waste Planning Unit**, were received. This represents a return rate of 100 %. Totals for all reports are presented below:

Principal Recyclable Material (PRM)					Total MSW Disposed		
Paper	725,026		Credits			Household Waste	4,539,568
Metal	782,609		Recycling Residue	14,750			
Plastic	30,667		Solid Waste Reused	605,039		Commercial Waste	958,629
Glass	24,005		Non-MSW Recycled	132,721			
Commingled	144,753		TOTAL CREDITS (C) (Tons)	752,510		Institutional Waste	104,567
Yard Waste	537,675					Other:	5,130
Waste Wood	231,406						
Textiles	23,117						
Waste Tires	60,961						
Used Oil	66,454		2 % Source Reduction Credit	8 entities, equaling .23% overall		TOTAL MSW (M) (Tons)	5,607,895
Used Oil Filters	1,786						
Used Antifreeze	5,954					2009 State Recycling Rate	
Auto Bodies	4,101		((P+C)/(P+C+M) x 100) + Source Reduction Credit (3,490,151/9,098,045)X100)+.23%			38.6 %	
Batteries	16,212						
Electronics	7,755						
Other:	75,159						
			(rounding of individual data entries may affect sums in Totals)				
Total PRM (P) (Tons)	2,737,641						

* All data based on adjustments by DEQ for consistency with 9VAC-20-130-10 and 9VAC20-130-120.

RECYCLING IN VIRGINIA

2009 Statewide Recycling Rate of 38.6 %



Percentages as shown reflect adjustment based upon Source Reduction Credit of .23% applied to calculations.

PRMs = Principal Recyclable Materials (paper, metal, plastic, glass, commingled materials, yard waste, waste wood, textiles, waste tires, used oil, used oil filters, used antifreeze, inoperative automobiles, batteries, electronics and other)

CREDITS = Recycling Residues, Solid Waste Reused, and Non-MSW Recycled (includes construction and demolition material, ash and debris), and Source Reduction Initiatives. Source Reduction Initiatives must be documented as SWPU Policy and promoted across the SWPU.

MSW Disposed = Municipal solid waste delivered to sanitary landfills or incinerators for disposal.

Report prepared by Steve Coe, Virginia DEQ
steve.coe@deq.virginia.gov or 804-698-4029

APPENDIX 8

Recycling Rate Estimates

**RECYCLING RATE ESTIMATES
FOR THE
CITY OF MARTINSVILLE, HENRY COUNTY, AND THE TOWN OF RIDGEWAY**

Principal Recycle Materials (PRM)

<u>Item</u>	<u>Quantity (Tons)</u>	<u>% of Total</u>
Paper	14,277.69	54.92%
Metal	7,001.11	26.93%
Plastic	190.04	0.73%
Glass	308.29	1.19%
Commingled	0.00	0.00%
Yard Waste	0.00	0.00%
Waste Wood	2,894.38	11.13%
Textiles	445.62	1.71%
Waste Tires	188.37	0.72%
Used Oil	77.07	0.30%
Used Oil Filters	10.21	0.04%
Used Antifreeze	3.65	0.01%
Abandoned automobiles recovered	0.00	0.00%
Batteries	44.20	0.17%
Electronics	19.54	0.08%
Other	536.29	2.06%
Total Recyclables	25,996	
 Total Disposed	 55,831	
Total Credits	614	
 Base Recycle Rate*	 31.8%	
Final Recycle Rate**	32.3%	

*Recycle Rate = Total Recyclables / Total Recyclables+Total Disposed

** Recycle Rate = (Total Recyclables+Credit)/(Total Recyclables+Credit+Disposed)

APPENDIX 9

Public Hearing Notice and Minutes

APPENDIX 10

Board Resolutions